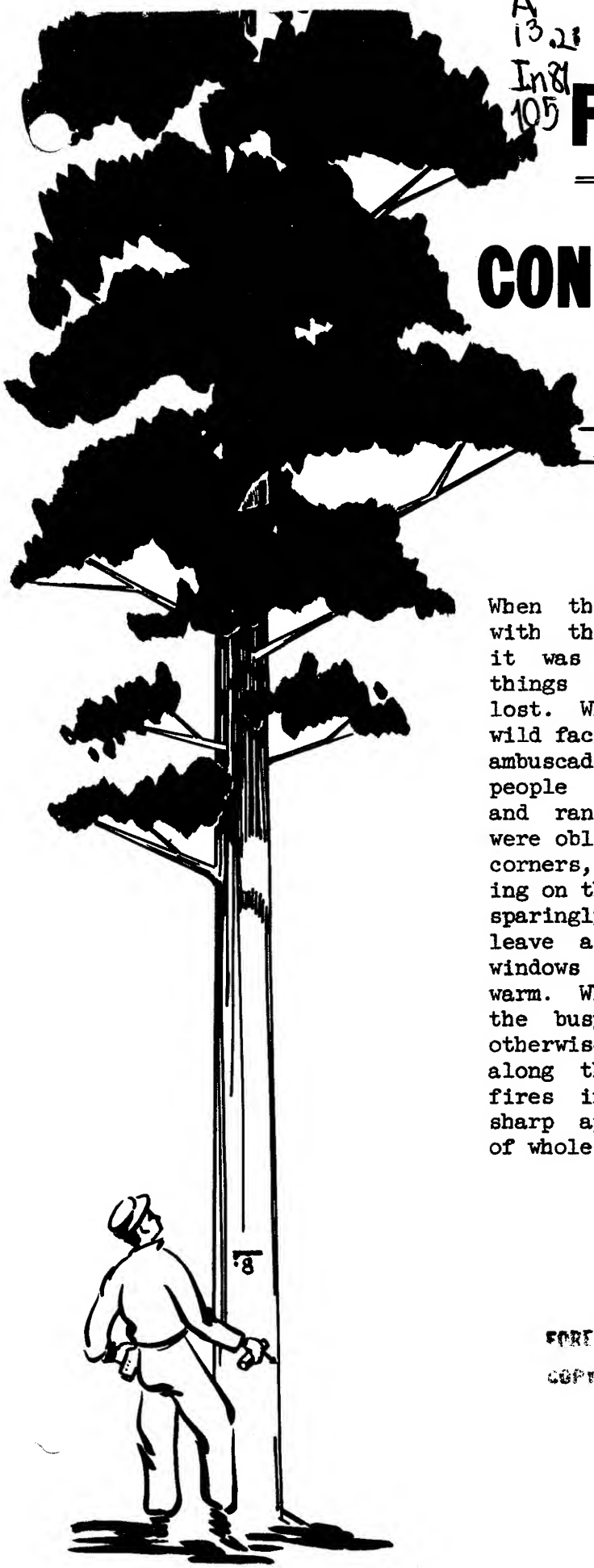

FOREST CONTROL *by* CONTINUOUS INVENTORY

"Today I have grown taller from walking with the trees."

...Karle Wilson

Milwaukee, Wis. December, 1962 No. 105

CHRISTMAS

When the wind was blowing, shrill and shrewd, with the going down of the blurred sun. When it was just so dark, as that the forms of things were indistinct and big but not wholly lost. When sitters by the fire began to see wild faces and figures, mountains and abysses, ambuscades and armies, in the coals. When people in the streets bent down their heads and ran before the weather. When those who were obliged to meet it, were stopped at angry corners, stung by wandering snow flakes alighting on the lashes of their eyes--which fell too sparingly, and were blown away too quickly, to leave a trace upon the frozen ground. When windows of private houses closed up tight and warm. When lighted gas began to burst forth in the busy and quiet streets, fast blackening otherwise. When stray pedestrians, shivering along the latter, looked down at the glowing fires in the kitchens, and sharpened their sharp appetites by sniffing up the fragrancy of whole miles of dinners.

Charles John Huffham Dickens

The Forester

SAMPLE CFI LISTINGS

Despite the shift to larger automatic data computers, a great many CFI cases are still being handled with the calculating punch. It seems desirable, therefore, to distribute sample listing and heading sheets with brief explanations covering the processing procedures.

The case example is a simple one involving only 17 out of 75 permanent fifth-acre plots. Measured with extreme care and precision on an annual basis for 18 successive years, these 75 sample plots have given us much data for study. Best of all, they have provided us with a continuing check on the methods and techniques of the Region's Industrial CFI system.

The complete record for all of these plots will be available on cards sometime during the first half of 1963. These data will provide an excellent opportunity for growth projection and correlation studies. Samples of the information for the full 18 years of growth will be mailed out with the Newsletter next year. The samples will include representative trees 7" and larger in DBH. Each tree status class will be shown. There will be repeaters, ingrowth, mortality, cut and changed use trees, all selected at random from the 1648 individual tree card records available.

CAL STOTT
Forester

Dec. 1962

THE PLOT TOTAL LISTING IN CFI

Refer to Example

LIST 1

This is a form layout heading typical of the plot total listing for a single measurement. It is the very first listing made. It has many purposes and uses in inventory control work. Completed after individual tree volumes, basal areas and DBH classes have been calculated and punched, this listing gives the first total forest answers.

Plot total listings are a complete record of every tree tallied on Port-a-Punch cards in the woods. There are 10,000 to 25,000 tree cards in each CFI project. Cull and write-off trees are included in this descriptive list but their count and volume are excluded from the totals. Only commercial trees are additive.

FORM LAYOUT HEADINGS

```
                            M
                            G
        D             U     M
  S     E             S     N T
P I     N       T     A     T R T
L T C S S       R     B       E R   N B T
O E O I I       E     L S   P E E D E A R
T   V Z T       E     E O   O   E B T S E
  Q E E Y         S     U   T Q   H   A E
N U R           N P   L N   E U S   V L
U A   C C       U E   E D V N A T C O   C
M L T L L       M C   N N I T L A L L A O
B I Y A A       B I D G E G I I T A U R U
E T P S S       E E B T S O A T U S M E N
R Y E S S       R S H H S R L Y S S E A T
---------       -------------------------
PLOT MASTER          TREE DETAIL
```

Trees and plots are listed in numerical sequence. Totals are accumulated for each plot and for the whole forest. These final totals are used for control total checks on many subsequent segregations of data. Plot count may also be accumulated.

The first plot total listing is a single copy check-listing only. The cruiser's decisions on stand density, size class, and sometimes cover, are checked against the plot total answers for these characteristics of the forest. Corrections for obvious errors are made. To facilitate comparison, plot total listings show the plot master card content preceding each set of tree detail data.

A second plot total listing is made after the plot master cards have been corrected. At this time plot total summary cards are punched with corrected indicative information describing each plot area.

Plot total listings are the first essential in all CFI cases regardless of the data processing equipment available. Seldom submitted in final reports to top management, this listing is of great use and value to the forester.

PURPOSES AND USES OF THE PLOT TOTAL LISTING

1. A supporting reference and ready record of complete tree and plot detail, with control totals.

2. A convenient means of checking plot area descriptions made in the woods, against plot total volumes or basal areas.

3. A means of securing plot total summary cards needed for area break answers and statistical checks.

Dec. 1962

THE PLOT TOTAL SUMMARY CARD LISTING IN CFI

Refer to Example

LIST 2

This Form Layout heading is typical of the Plot Total Summary Card Listing. It accumulates the volumes, basal areas and trees by plots to provide a control total check against previous and subsequent listings. The number of plots, and number of acres represented by each plot, are also accumulated. Plot total summary cards, and indicative information in them describing the forest area, are listed in numerical order. There are from 400 to 1700 plots in separate cards and lines of data in the listings. Summary cards for plots without tally, or blank plot cards, show only indicative information for the plot and the constant area expander in acres.

FORM LAYOUT HEADINGS

PLOT MASTER	PLOT TOTALS
D E N	
S	
P I	
L T C S S	N B T
O E O I I	E A R
T V Z T	T S E
Q E E Y	A E
N U R	V L
U A C C	O C A
M L T L L	L A O C
B I Y A A	U R U R
E T P S S	M E N E
R Y E S S	E A T S

Area expanders are additive when compiled with the calculating punch. With the larger computers the expanded area is computed into an answer card simultaneously with other computations.

Ordinarily there are no tree detail data in plot total summary listings. Occasionally plot total summary cards are punched to provide answers by DBH class or species within each plot. In such cases species codes and DBH classes are also a part of the summary card and listings. Cull and write-off trees are excluded from the commercial tree totals in these summary cards. Plot total summary cards are details of chief interest to foresters.

PURPOSES AND USES OF THE PLOT TOTAL SUMMARY CARD LISTING

1. A brief and useful reference giving area description and plot total answers.

2. A control total check on the adequacy of summary punching and subsequent tabulations.

3. A rapid means of securing area break answers for all species combined or for DBH class, species and other separations within the plot.

4. The volumes, and occasionally basal areas, are often squared in these cards for later accumulation in preparation for statistical checks of volumes and areas.

Dec. 1962

PREPARING SUMMARY COMPUTING CARDS AND LISTINGS FOR AREA BREAKS IN C.F.I.

Refer to Example

LIST 3

After completing the first two listings, the plot total samples for the various segregations of forest area are gathered together. This is done by sorting and tabulating the plot total summary cards, and at the same time summary punching SUMMARY COMPUTING CARDS for each area break or combination thereof. Volumes, basal areas, tree counts, plot counts and acres are accumulated. In most cases the sum of the squares of volumes are also totaled for the area breaks. Generally SUMMARY COMPUTING CARDS are prepared only for plot total answers of all species and DBH classes combined. Only commercial trees are included.

FORM LAYOUT HEADINGS

PLOT MASTER	TOTALS IN SAMPLE
S	N S
D	E U
S E	T M
N I N	
O T C S S	I B T O
E O I I	N A R F
O V Z T	T S E
F Q E E Y	L A E S
U R	L Q
P A C C	B C A U
L L T L L	D A O C A
O I Y A A	R U R R
T T P S S	F E N E E
S Y E S S	T A T S S

Form layouts for listings or tabulations of this information are standard in most CFI cases. There are generally more area breaks than given in the example, and cordwood volume and tree count are always included. Net growth is also accumulated at successive remeasurements.

SUMMARY COMPUTING CARDS are prepared and processed differently depending upon the kind of computers available in the machine room.

SUMMARY COMPUTING DECKS have a number of technical and business uses in forestry.

PURPOSES AND USES OF SUMMARY COMPUTING CARDS FOR THE AREA BREAKS

1. A calculation of per acre answers and volume expansions for all important area breaks. Total acres and total plots are also accumulated.

2. A calculation of the statistical accuracy of both volume and area segregations of the sample data.

3. Comparative summations of volume and basal area growth.

4. A control total check against previous accumulations of the basic data in the sample.

LISTING THE MOST COMMON COMPUTED AREA BREAK ANSWERS
PER ACRE REDUCTIONS AND TOTAL EXPANSIONS

Refer to Example

LIST 3a

FORM LAYOUT HEADINGS

NO OF PLOTS	SITE QUALITY	COVER TYPE	SIZE CLASS	DENSITY CLASS	NET INTL BD FT	BASAL AREA	TREE COUNT	EXPANDED ACRES	EXPANDED BD FT
PLOT MASTER					PER ACRE			EXPANSION	

The summary computing cards prepared and presented in List 3 are systematically computed and listed again to show per acre and total expansion answers. Done for each area break or combination, these answers are given for tree count, volume and basal area. Volume only is expanded to a total forest figure.

Species and DBH answers are also secured if the original summary computing cards were grouped by these two tree details. Generally all species and tree sizes are combined in this listing of results, as shown in List 3a.

The form layouts again are standard, but in industrial forest inventories more detail is shown. Net growth in terms of volume, and sometimes basal area, are included at the time of each remeasurement.

Computations with the calculating punch involve simple formulas * for the per acre and expanded answers. Expanded acres are additive from the summary cards in List 3.

PURPOSES AND USES OF THE LISTINGS OF AREA BREAK ANSWERS

1. A set of broad answers quickly secured and readily compared, for large forest areas.

2. A ready check against final answers accumulated from other tree details.

3. These computed summary cards afford a simple means of making statistical analyses of volumes and basal areas by area subdivisions of the forest.

* Refer to Newsletter No. 54. Formulas and Convertors for Punch Card Computing Industrial CFI Cases.

PREPARING SUMMARY COMPUTING CARDS FOR TREE DETAIL ANSWERS IN CFI
TREE QUALITY CLASS AND SPECIES
Refer to Example

LIST 4

FORM LAYOUT HEADINGS

	N
	E
T	T
R	
E	I B T
E	N A R
	T S E
S Q	L A E
P U	L
E A	B C
C L	D A O
I I	R U
E T	F E N
S Y	T A T
TREE DETAIL	TOTALS IN SAMPLE

The computation and listing of area break answers are generally followed by similar procedures, involving tree detail information in combination with area breaks. The original deck containing both tree detail and area break information is used for this purpose.

Tree count, volume and basal area are accumulated from the sample data. Plot count and acres are not accumulated but secured for computing and listing, from area break summary List 3a.

The detail cards are sorted first on tree quality class and then on species. Results in the case example (List 4) include no area breaks but are for the total forest only.

Form layouts for tree quality class, species and total forest answers follow the standard plan. Either a listing or a tabulation of the details is made. Summary computing cards are punched, and held for computation with all other summary computing decks.

Net growth data are included at remeasurement time.

PURPOSES AND USES OF SUMMARY COMPUTING CARDS FOR THE QUALITY AND SPECIES FOR THE TOTAL FOREST AREA

1. A calculation of per acre and volume expansion answers for the total forest or for area breaks and combinations thereof.

2. Control total checks against previous and subsequent summations of data.

LISTING THE COMPUTED TREE QUALITY AND SPECIES ANSWERS PER ACRE REDUCTIONS AND TOTAL EXPANSIONS

Refer to Examples

LISTS 4a and 4b

The summary computing cards prepared for List 4 are calculated and listed as in previous cases. Standard form layouts apply.

One deviation occurs in the handling of these data. When calculating punch procedures are used in data processing, reverse sorts of the computed summary cards are made. This gives the per acre reductions and total expansions for both the minor and intermediate sorts of the tree detail data. Two lists are thus available, each with a control total check.

The first sort for List 4a, in this particular case example, was made on tree quality class. The second sort was on species.

After the completion of the first listing on this basis, the summary computing cards were reverse sorted. Species became the first sort and tree quality class the second. From this sort List 4b was made.

FORM LAYOUT HEADINGS

NO OF TREE DETAIL	SQ PU EA CL II ET SY	N E T IBT NAR TSE LAE L BC DAO RU FEN TAT	EE XX PP AA NN DD EE DD AB CD R EF ST
	TREE DETAIL	PER ACRE	EXPANSION

PURPOSES AND USES OF THE LISTINGS OF TREE QUALITY AND SPECIES ANSWERS FOR THE TOTAL FOREST OR FOR AREA BREAKS

1. A presentation of volumes and trees present by tree quality and species combinations. A gauge of wood quality present in the forest.
2. A determination of forest growth by grade.
3. A measure of periodic change in tree quality distribution in the forest.
4. A basis for the development of forest valuation trends in successive growth periods.
5. Basic information from which the investment value of the forest property may be determined.

PREPARING SUMMARY COMPUTING CARDS FOR TREE DETAIL ANSWERS IN CFI
TREE VIGOR AND SPECIES
Refer to Example

LIST 5

FORM LAYOUT HEADINGS

	N E T
T R E S E P E V C I I G E O S R	I B T N A R T S E L A E L B C D A O R U F E N T A T
TREE DETAIL	TOTALS IN SAMPLE

A measure of the distribution of trees by vigor within species is considered important in Lake and Central States CFI installations. It seems desirable to segregate trees into growth classes so that the contribution of each class to the wood production of the forest may be determined.

Data processing for the accumulation of detail on tree vigor within species follows the identical plan of Lists 4, 4a, and 4b. Again summary computing cards are punched and held for subsequent calculating with other decks. Growth data are also accumulated when remeasured records become available.

LISTING THE COMPUTED VIGOR AND SPECIES ANSWERS
PER ACRE REDUCTIONS AND TOTAL EXPANSIONS
Refer to Examples

LISTS 5a and 5b

	N E T		E E X X P P
N O O F P L O T S	T R E S E P E V C I I G E O S R	I B T N A R T S E L A E L B C D A O R U F E N T A T	A A N N D D E E D D A B C D R E F S T
	TREE DETAIL	PER ACRE	EXPANSION

Computations and listings for tree vigor and species answers follow the pattern of previous records. Again reverse sorts are made and two listings prepared.

There are a number of purposes and uses for these data. They measure the relative health and vigor of the total forest by species. A vigor index of northwoods stands is important. Since tree vigor is directly related to health, it serves as a gauge of anticipated tree mortality. It is a helpful guide in timber marking planning, and a useful training tool.

Dec. 1968

PREPARING SUMMARY COMPUTING CARDS FOR TREE DETAIL ANSWERS IN CFI STOCK AND STAND TABLES AND HEIGHT AND VOLUME CURVES

Refer to Example

LIST 6

FORM LAYOUT HEADINGS

NO OF PLOTS	SPECIES	DBH CLASS	USABLE LENGTHS	NET INTL BD FT	BASAL AREA	TREE COUNT
	TREE DETAIL			TOTALS IN SAMPLE		

Stock and stand tables show the structural arrangement of the forest in terms of DBH class and species. Tables are built for the whole forest and for area breaks within the forest. Most industrial companies prepare stock and stand tables and height and volume curves from their tree records.

Data processing reaches its ultimate in economy in the construction of stock and stand tables regardless of the type of computer used.

The preparation of summary computing cards and their calculation and listing follow the same system previously explained. Accumulations of data are by species, and DBH class. DBH class was punched into the tree detail cards at the time of the computation of individual tree volumes.

Per acre reductions and total expansions by DBH class and species are computed from these accumulated data. Volume and length per tree are similarly computed, generally with a separate run through the calculating punch.

LISTING THE COMPUTED STOCK AND STAND TABLE AND VOLUME AND LENGTH PER TREE ANSWERS PER ACRE AND PER TREE REDUCTIONS AND TOTAL EXPANSIONS

Refer to Example

LIST 6a

NO OF PLOTS	SPECIES	DBH CLASS	AVERAGE LENGTH	AVERAGE VOLUME	NET INTL BD FT	BASAL AREA	TREG COUNT	EXPANDED ACRES	EXPANDED BD FT
	TREE DETAIL		PER TREE		PER ACRE			EXPANSION	

Summary computing cards for stock and stand tables are held for calculating with all previously compiled decks. Reverse sorts are made to secure listings showing reductions and expansions for DBH class. Stock and stand tables have many purposes. The first of them is to show the stand structure and its variation trends over many CFI periods. Sometimes used for growth projection between measurement intervals, these tables give the opportunity for periodic trial balances of growth in terms of volume and basal area. Height and volume curves by species have uses, both technical and administrative.

PLOT TOTAL LISTING

LIST 1

PLOT NO	CROSS SECTION	DENSITY	TREE NO	SPECIES	DIAMETER	LENGTH	%SOUNDNESS	VIGOR	QUALITY	DBH CLASS	NET VOL. BD. FT. INTERNATNL	BASAL AREA	TREES
1	2143	01	45	14.3	32	.93	2	2	14	136.2	1.12	1
1	2143	03	05	13.8	34	.97	1	3	14	132.3	1.04	1
1	2143	04	01	15.1	18	.93	1	3	16	91.5	1.24	1
1	2143	05	05	13.4	24	.65	3	3	14	61.2	.98	1
1	2143	06	05	13.5	30	.86	2	2	14	99.6	.99	1
1	2143	09	11	15.7	28	.97	2	1	16	157.6	1.34	1
1	2143	11	01	14.1	10	.99	4	4	14	53.8	1.08	1
1	2143	14	05	11.1	18	.97	2	3	12	46.5	.67	1
1	2143	15	11	19.2	34	.93	2	1	20	278.5	2.01	1
1	2143	16	05	12.6	20	.97	2	3	12	68.2	.87	1
1	2143	19	11	16.3	42	.97	2	1	16	246.1	1.45	1
1	2143	20	05	11.9	28	.97	2	3	12	76.4	.77	1
										1447.9	13.56 *	12 *
2	2143	01	11	17.2	34	.93	2	1	18	219.7	1.61	1
2	2143	03	05	18.1	24	.99	4	4	18	185.8	1.79	1
2	2143	04	11	23.5	32	.65	3	2	24	280.2	3.01	1
2	2143	05	11	13.9	28	.65	3	3	14	79.3	1.05	1
2	2143	06	11	16.8	40	.93	2	2	16	241.6	1.54	1
2	2143	07	04	22.8	44	.65	3	3	22	334.1	2.84	1
2	2143	08	04	29.3	48	.99	4	4	30	892.0	4.68	1
2	2143	09	05	11.9	12	.86	3	3	12	37.2	.77	1
2	2143	10	05	11.3	20	.86	3	3	12	46.3	.70	1
2	2143	14	05	12.0	28	.97	3	3	12	78.2	.79	1
2	2143	16	11	16.6	32	.97	3	1	16	200.8	1.50	1
2	2143	17	05	14.7	40	.97	1	2	14	178.4	1.18	1
2	2143	19	11	20.5	44	.93	1	1	20	401.5	2.29	1
2	2143	20	11	13.6	34	.93	3	2	14	127.2	1.01	1
										3302.3	24.76 *	14 *
3	2143	01	20	14.5	34	.93	2	1	14	143.2	1.15	1
3	2143	02	11	14.1	22	.86	2	3	14	88.7	1.08	1
3	2143	03	11	17.8	40	.97	2	1	18	285.8	1.73	1
3	2143	04	11	11.6	20	.93	1	3	12	55.6	.73	1
3	2143	06	11	16.7	34	.93	2	1	16	206.1	1.52	1
3	2143	09	04	14.0	29	.97	1	2	14	119.4	1.07	1
3	2143	11	11	18.6	38	.86	2	2	18	265.9	1.89	1
3	2143	12	11	15.3	38	.86	2	2	16	172.4	1.28	1
3	2143	13	11	15.3	33	.93	2	2	16	164.4	1.28	1
3	2143	14	11	16.0	38	.93	2	1	16	206.6	1.40	1
3	2143	15	11	15.1	40	.97	2	1	16	197.6	1.24	1
3	2143	16	11	14.9	34	.86	2	2	14	146.8	1.21	1
3	2143	17	11	17.2	32	.78	3	2	18	174.6	1.61	1
3	2143	18	11	12.8	32	.93	3	3	12	103.3	.89	1
3	2143	20	11	17.5	42	.97	2	1	18	288.1	1.67	1
										2618.5	19.75 *	15 *
4	1243	02	69	17.8	40	.97	2	2	18	285.8	1.73	1
4	1243	05	11	18.9	44	.97	2	1	18	354.1	1.95	1
4	1243	06	11	13.2	24	.86	3	2	14	81.1	.95	1
4	1243	07	11	12.5	20	.93	2	3	12	66.6	.85	1
4	1243	09	69	25.3	36	.97	2	1	20	535.0	3.49	1
4	1243	10	69	16.8	24	.86	3	2	16	142.4	1.54	1
4	1243	12	11	15.4	38	.97	2	1	16	197.4	1.29	1
4	1243	13	69	28.2	50	.65	3	3	28	586.9	4.34	1
										2249.3	16.14 *	8 *
5	3132	03	11	13.4	26	.86	1	3	14	90.1	.98	1
5	3132	05	11	11.1	14	.86	3	3	12	36.8	.67	1
5	3132	06	11	11.1	20	.97	1	3	12	51.7	.67	1
5	3132	08	06	13.9	16	.97	2	2	14	74.9	1.05	1
5	3132	09	20	12.0	18	.93	2	3	12	53.7	.79	1
5	3132	11	11	14.1	24	.97	1	2	14	107.5	1.08	1
5	3132	12	69	18.2	24	.97	1	1	18	191.5	1.81	1
5	3132	15	11	12.6	20	.93	3	2	12	68.0	.87	1
5	3132	16	11	11.7	26	.97	1	3	12	71.7	.75	1
										745.9	8.67 *	9 *
6	3233	01	04	11.4	22	.93	3	3	12	54.6	.71	1
6	3233	02	04	12.6	26	.97	2	2	12	83.9	.87	1
6	3233	03	04	14.2	42	.93	1	2	14	164.0	1.10	1
6	3233	08	11	12.3	16	.93	3	3	12	54.3	.83	1
6	3233	09	04	13.6	30	.86	2	3	14	101.5	1.01	1
6	3233	11	11	12.0	22	.78	3	3	12	54.3	.79	1
6	3233	12	11	15.4	20	.86	2	2	16	100.3	1.29	1
6	3233	20	04	16.6	26	.93	1	1	16	154.4	1.50	1
										767.3	8.10 *	8 *
7	1142	01	04	11.1	16	.78	3	3	12	34.7	.67	1
7	1142	05	11	16.7	46	.97	2	1	16	282.7	1.52	1
7	1142	06	05	11.5	16	.78	3	3	12	37.7	.72	1
7	1142	07	11	18.1	44	.93	2	1	18	309.8	1.79	1
7	1142	08	11	11.6	25	.93	3	3	12	65.4	.73	1
7	1142	09	11	23.0	42	.97	1	1	24	506.4	2.89	1
7	1142	11	11	18.9	40	.93	1	1	18	311.5	1.95	1
7	1142	12	41	13.6	35	.86	3	3	14	114.6	1.01	1
7	1142	13	11	17.4	32	.86	2	2	18	197.5	1.65	1
7	1142	14	11	17.8	48	.93	2	1	18	323.5	1.73	1
7	1142	15	11	11.4	16	.93	3	3	12	45.8	.71	1
7	1142	16	11	18.7	48	.97	1	1	18	375.0	1.91	1
7	1142	17	11	17.1	40	.93	1	2	18	251.2	1.60	1
										2855.8	18.88 *	13 *
8	3143	01	11	12.5	18	.93	3	3	12	61.6	.85	1
8	3143	02	11	16.4	30	.86	2	2	16	163.9	1.47	1
8	3143	03	69	12.9	24	.86	3	3	12	76.8	.91	1
8	3143	04	11	12.2	14	.93	2	3	12	48.7	.81	1
8	3143	06	11	11.8	26	.93	2	3	12	70.4	.76	1
8	3143	07	11	12.7	30	.86	3	3	12	88.6	.88	1
8	3143	09	11	12.1	30	.97	2	3	12	88.0	.80	1
8	3143	12	04	14.0	34	.97	1	2	14	137.1	1.07	1
8	3143	13	11	13.3	12	.65	3	3	14	36.8	.97	1
8	3143	14	11	12.2	24	.86	2	3	12	66.8	.81	1
8	3143	16	11	15.6	38	.97	1	1	16	203.7	1.33	1
8	3143	20	11	13.2	18	.93	1	3	14	69.7	.95	1
										1112.1	11.61 *	12 *
9	2143	02	04	15.8	46	.93	1	1	16	229.8	1.36	1
9	2143	03	04	14.7	38	.93	1	2	14	163.4	1.18	1
9	2143	04	11	14.6	26	.86	3	2	14	110.8	1.16	1
9	2143	05	11	11.7	12	.86	1	3	12	37.4	.75	1
9	2143	06	11	14.7	34	.97	1	2	14	160.4	1.18	1
9	2143	07	04	13.5	30	.93	1	2	14	107.7	.99	1
9	2143	08	04	11.9	14	.93	2	3	12	44.3	.77	1
9	2143	11	11	16.6	34	.93	2	1	16	203.2	1.50	1
9	2143	13	11	12.4	22	.86	1	3	12	65.0	.84	1
9	2143	14	30	12.7	30	.97	3	2	12	99.9	.88	1
9	2143	15	11	13.9	30	.86	1	2	14	111.4	1.05	1
9	2143	18	04	21.1	44	.97	1	1	22	426.9	2.43	1
9	2143	20	11	16.9	28	.97	1	1	16	185.8	1.56	1
9	2143	21	11	17.9	30	.97	2	1	18	224.1	1.75	1
9	2143	24	45	11.2	16	.93	2	3	12	44.0	.68	1
9	2143	28	04	14.8	48	.86	2	2	14	189.8	1.20	1
										2403.9	19.28 *	16 *

LIST * 1 (CONT'D)

10	2143	02	04	12.3	34	.97	3	3	12	98.0	.83	1		
10	2143	03	04	11.4	24	.97	3	3	12	60.6	.71	1		
10	2143	05	11	17.5	40	.97	2	1	18	275.7	1.67	1		
10	2143	08	11	14.2	16	.93	1	2	14	75.3	1.10	1		
10	2143	09	11	15.1	36	.97	2	1	16	179.7	1.24	1		
10	2143	10	04	15.1	38	.97	1	1	16	181.4	1.24	1		
10	2143	11	11	11.7	16	.97	1	3	12	50.6	.75	1		
10	2143	15	11	11.1	24	.97	1	3	12	58.6	.67	1		
10	2143	16	69	14.2	28	.93	2	2	14	119.2	1.10	1		
10	2143	20	11	14.0	28	.93	2	2	14	115.5	1.07	1		
10	2143	21	11	15.8	36	.97	3	1	16	199.6	1.36	1		
10	2143	22	11	13.4	34	.93	1	2	14	122.5	.98	1		
										1536.7	12.72 *	12 *		
11	3232	02	05	14.1	14	.86	3	3	14	59.6	1.08	1		
11	3232	06	69	13.8	14	.86	2	2	14	59.0	1.04	1		
11	3232	07	45	11.8	10	.86	3	3	12	34.2	.76	1		
11	3232	08	11	11.5	14	.93	1	3	12	43.0	.72	1		
11	3232	10	11	17.2	24	.99	4	4	28	453.0	4.04	1		
11	3232	11	20	16.1	28	.86	2	1	16	142.2	1.41	1		
11	3232	12	05	13.4	20	.78	3	2	14	63.4	.98	1		
										854.4	10,03 *	7 *		
12	1243	05	11	16.3	38	.97	1	1	16	224.8	1.45	1		
12	1243	10	69	18.5	26	.93	1	2	18	203.8	1.87	1		
										428.6	3.32 *	2 *		
13	1242	02	69	14.6	40	.93	1	2	14	175.1	1.16	1		
13	1242	03	05	19.6	48	.99	4	4	20	405.6	2.10	1		
13	1242	06	04	26.8	48	.86	2	2	26	654.1	3.92	1		
13	1242	07	05	15.3	30	.93	2	2	16	145.3	1.28	1		
13	1242	08	06	28.8	16	.93	3	1	28	355.5	4.52	1		
										1735.6	12.98 *	5 *		
14	2143	02	11	18.9	50	.93	3	1	18	381.5	1.95	1		
14	2143	03	69	14.4	40	.97	2	2	14	176.6	1.13	1		
14	2143	04	11	13.9	30	.93	3	2	14	120.4	1.05	1		
14	2143	05	11	12.2	20	.97	3	3	12	65.5	.81	1		
14	2143	06	11	16.3	48	.93	2	1	16	266.7	1.45	1		
14	2143	08	11	16.4	40	.97	2	1	16	239.0	1.47	1		
14	2143	09	11	15.1	44	.97	3	2	16	215.5	1.24	1		
14	2143	10	11	19.0	48	.93	2	1	20	371.7	1.97	1		
14	2143	12	69	20.2	50	.78	2	1	20	366.8	2.23	1		
14	2143	13	06	16.8	14	.93	2	1	16	99.3	1.54	1		
14	2143	14	11	13.0	36	.93	1	2	14	119.1	.92	1		
14	2143	15	11	16.0	46	.97	1	1	16	256.4	1.40	1		
14	2143	16	11	12.6	20	.93	1	3	12	68.0	.87	1		
14	2143	17	11	16.4	30	.86	3	2	16	163.9	1.47	1		
14	2143	18	11	14.9	42	.97	1	2	14	200.2	1.21	1		
14	2143	20	11	14.4	34	.97	1	2	14	152.8	1.13	1		
14	2143	21	11	13.8	16	.86	3	3	14	65.3	1.04	1		
14	2143	22	01	17.6	20	.86	2	3	18	130.3	1.69	1		
14	2143	23	11	12.3	22	.93	3	3	12	68.8	.83	1		
14	2143	24	11	16.4	34	.86	2	1	16	183.1	1.47	1		
										3710.9	26.87 *	20 *		
15	1143	01	11	13.5	38	.97	2	2	14	143.6	.99	1		
15	1143	02	05	15.6	38	.97	2	2	16	195.8	1.33	1		
15	1143	03	11	12.8	20	.97	2	3	12	73.5	.89	1		
15	1143	04	11	15.5	28	.93	2	1	16	146.5	1.31	1		
15	1143	05	11	13.3	42	.86	2	2	14	133.7	.97	1		
15	1143	10	11	14.9	40	.93	2	2	14	183.7	1.21	1		
15	1143	11	11	14.6	30	.97	3	2	14	141.4	1.16	1		
15	1143	13	11	16.3	34	.93	2	1	16	195.0	1.45	1		
15	1143	14	11	11.4	18	.93	3	3	12	49.4	.71	1		
15	1143	15	11	12.3	30	.93	3	3	12	88.1	.83	1		
15	1143	17	05	13.2	32	.97	2	2	14	112.0	.95	1		
15	1143	18	11	11.3	32	.86	3	3	12	67.8	.70	1		
15	1143	19	11	15.1	40	.93	3	1	16	189.5	1.24	1		
15	1143	20	11	15.4	34	.97	1	1	16	178.7	1.29	1		
15	1143	21	04	17.4	40	.93	2	2	18	250.8	1.65	1		
15	1143	22	11	14.0	36	.93	2	2	14	143.8	1.07	1		
15	1143	24	11	20.3	44	.97	1	1	20	410.4	2.25	1		
15	1143	25	11	17.4	42	.97	1	1	18	284.4	1.65	1		
15	1143	26	05	11.3	16	.86	3	3	12	40.0	.70	1		
										3028.1	22.35 *	14 *		
16	2143	01	05	16.1	32	.65	3	3	16	120.9	1.41	1		
16	2143	03	05	14.4	22	.93	2	3	14	96.9	1.13	1		
16	2143	04	05	13.1	12	.97	3	2	14	51.2	.94	1		
16	2143	05	11	16.8	40	.93	1	2	16	241.6	1.54	1		
16	2143	06	11	16.4	36	.97	1	2	16	217.3	1.47	1		
16	2143	08	05	13.7	24	.93	1	3	14	92.5	1.02	1		
16	2143	09	11	22.4	32	.78	3	2	22	305.0	2.74	1		
16	2143	10	11	19.1	18	.97	2	2	20	168.0	1.99	1		
16	2143	11	20	11.5	8	.78	3	3	12	25.5	.72	1		
16	2143	15	11	14.5	18	.86	2	2	14	80.3	1.15	1		
16	2143	16	11	11.4	20	.86	2	3	12	49.1	.71	1		
16	2143	17	11	12.0	32	.97	2	3	12	90.6	.79	1		
16	2143	18	05	11.7	24	.97	2	3	12	64.9	.75	1		
										1603.8	16.36 *	13 *		
17	1243	04	04	24.1	18	.99	4	4	24	272.3	3.17	1		
17	1243	06	45	16.0	20	.99	4	4	16	125.9	1.40	1		
17	1243	07	20	16.1	40	.97	2	1	16	220.4	1.41	1		
17	1243	09	01	13.0	28	.97	1	3	14	96.4	.92	1		
17	1243	12	06	21.3	38	.93	1	1	22	381.2	2.47	1		
17	1243	13	01	13.3	14	.93	3	3	14	56.5	.97	1		
17	1243	16	11	14.0	22	.86	3	2	14	87.2	1.07	1		
17	1243	17	05	17.9	40	.93	1	2	18	266.8	1.75	1		
17	1243	18	11	15.7	30	.97	1	2	16	167.4	1.34	1		
										1674.1	14.50 *	9 *		

TOTAL * PLOTS - 17 TOTALS IN SAMPLE — 320752 25988 194

SUMMARY OF PLOT TOTALS

XXXXXXXXXXXXXXXXXXXXXXXXXXX

PLOT NO	COSIVITEERE	DENSITEY	TREE NO	SPECIES	DIAMETER	LENGTH	SOUNDNESS	VIGOR	QUALITY	DBH CLASS	NET VOL. BD. FT. INTER-NAT'NL	BASAL AREA	TREES	ACRES REPRESENTED
1	2	143									1447.9	13.56	12	65.3
2	2	143									3302.3	24.76	14	65.3
3	2	143									2618.5	19.75	15	65.3
4	1	243									2249.3	16.14	8	65.3
5	3	132									745.9	8.67	9	65.3
6	3	233									767.3	8.10	8	65.3
7	1	142									2855.8	18.88	13	65.3
8	3	143									1112.1	11.61	12	65.3
9	2	143									2403.9	19.28	16	65.3
10	2	143									1536.7	12.72	12	65.3
11	3	232									854.4	10.03	7	65.3
12	1	243									428.6	3.32	2	65.3
13	1	242									1735.6	12.98	5	65.3
14	2	143									3710.9	26.87	20	65.3
15	1	143									3028.1	22.35	19	65.3
16	2	143									1603.8	16.36	13	65.3
17	1	243									1674.1	14.50	9	65.3
TOTAL # PLOTS - 17				TOTALS IN SAMPLE —							32075.2	259.88	194	1110.1

SUMMARIES BY AREA BREAK

NO PLOTS	SITE	COSVIEZ DENSITY	TREE NO	SPECIES	DIAMETER	LENGTH	SOUNDNESS	VIGOR	QUALITY	DBH CLASS	NET VOL, BD. FT. INTERNATNL	BASAL AREA	TREES	ACRES By AREA	SUM OF SQUARES
											TOTALS IN SAMPLE			EXPANDED VALUES	
6	1										11971.5	88.17	56	391.8	28382950.
7	2										16624.0	133.30	102	457.1	44341272.
4	3										3479.7	38.41	36	261.2	3111881.
17											32075.2	259.88 *	194 *	1110.1 *	75836103.*
				TOTALS IN SAMPLE —											
11	1										24365.9	194.81	155	718.3	63459389.
6	2										7709.3	65.07	39	391.8	12376714.
17											32075.2	259.88 *	194 *	1110.1 *	75836103.*
				TOTALS IN SAMPLE —											
3	3										2367.6	26.80	24	195.9	1875115.
14	4										29707.6	233.08	170	914.2	73960988.
17											32075.2	259.88 *	194 *	1110.1 *	75836103.*
				TOTALS IN SAMPLE —											
4	2										6191.7	50.56	34	261.2	12454267.
13	3										25883.5	209.32	160	848.9	63381836.
17											32075.2	259.88 *	194 *	1110.1 *	75836103.*
				TOTALS IN SAMPLE —											
1	13										745.9	8.67	9	65.3	556367.
10	14										23620.0	186.14	146	653.0	62903022.
2	23										1621.7	18.13	15	130.6	13187748.
4	24										6087.6	46.94	24	261.2	11057966.
17											32075.2	259.88 *	194 *	1110.1 *	75836103.*
				TOTALS IN SAMPLE —											
2	1	2									3601.7	27.55	22	130.6	8711961.
9	1	3									20764.2	167.26	133	587.7	54747428.
2	2	2									2590.0	23.01	12	130.6	3742306.
4	2	3									5119.3	42.06	27	261.2	8634408.
17											32075.2	259.88 *	194 *	1110.1 *	75836103.*
				TOTALS IN SAMPLE —											

SUMMARY VALUES QUALITY WITHIN SPECIES

LIS # 4

TOTALS IN SAMPLE

NO PLOTS	COSIVITEZ EREY	DENSITY	TREE NO	SPECIES	DIAMETER	LENGTH	SOUNDNESS	VIGOR	QUALITY	DBH CLASS	NET VOL. BD. FT. INTER-NAT'NL	BASAL AREA	TREES
				01					3		374.7	4.82	4
				01					4		53.8	1.08	1
											428.5	5.90 *	5 *
				04					1		992.5	6.53	4
				04					2		1870.2	13.05	9
				04					3		727.8	7.54	7
				04					4		1164.3	7.85	2
											4754.8	34.97 *	22 *
				05					2		1112.5	9.40	8
				05					3		1058.8	13.40	15
				05					4		591.4	3.89	2
											2762.7	26.69 *	25 *
				06					1		836.0	8.53	3
				06					2		74.9	1.05	1
											910.9	9.58 *	4 *
				11					1		10148.3	63.55	39
				11					2		6223.4	52.00	39
				11					3		2334.9	29.47	36
				11					4		453.0	4.04	1
											19159.6	149.06 *	115 *
				20					1		505.8	3.97	3
				20					3		79.2	1.51	2
											585.0	5.48 *	5 *
				30					2		99.9	.88	1
											99.9	.88 *	1 *
				41					3		114.6	1.01	1
											114.6	1.01 *	1 *
				45					2		136.2	1.12	1
				45					3		78.2	1.44	2
				45					4		125.9	1.40	1
											340.3	3.96 *	4 *
				69					1		1093.3	7.53	3
				69					2		1161.9	9.57	7
				69					3		663.7	5.25	2
											2918.9	22.35 *	12 *

17-TOTAL PLOTS

TOTALS IN SAMPLE — 32075.2 259.88 194

LIS - #5

SUMMARY VALUES VIGOR WITHIN SPECIES
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

SPECIES	VIGOR	TOTALS IN SAMPLE XXXXXXXXXXXXXXXXXXXXXXXXX NET VOLUME BD. FT. INTER-NAT'NL	BASAL AREA	TREES	
1	1	187.9	2.16	2	
1	2	130.3	1.69	1	
1	3	56.5	.97	1	
1	4	53.8	1.08	1	
		428.5	5.90	* 5	*
4	1	1684.1	11.94	9	
4	2	1324.4	9.42	6	
4	3	582.0	5.76	5	
4	4	1164.3	7.85	2	
		4754.8	34.97	* 22	*
5	1	670.0	4.99	4	
5	2	905.6	8.74	9	
5	3	595.7	9.07	10	
5	4	591.4	3.89	2	
		2762.7	26.69	* 25	*
6	1	381.2	2.47	1	
6	2	174.2	2.59	2	
6	3	355.5	4.52	1	
		910.9	9.58	* 4	*
11	1	5926.7	43.25	34	
11	2	8902.1	65.09	48	
11	3	3877.8	36.68	32	
11	4	453.0	4.04	1	
		19159.6	149.06	* 115	*
20	2	559.5	4.76	4	
20	3	25.5	.72	1	
		585.0	5.48	* 5	*
30	3	99.9	.88	1	
		99.9	.88	* 1	*
41	3	114.6	1.01	1	
		114.6	1.01	* 1	*
45	2	180.2	1.80	2	
45	3	34.2	.76	1	
45	4	125.9	1.40	1	
		340.3	3.96	* 4	*
69	1	570.4	4.84	3	
69	2	1542.4	10.72	6	
69	3	806.1	6.79	3	
		2918.9	22.35	* 12	*
TOTALS IN SAMPLE —		32075.2	259.88	194	

17 - TOTAL PLOTS

LIST # 6

SUMMARY VALUES STOCK AND STAND TABLES

DBH CLASS WITHIN SPECIES

NO PLOTS	SPECIES	DBH CLASS	LENGTH SUMMARY ALL TREES	TOTALS IN SAMPLE — NET VOLUME BD. FT. INTER-NAT'NL	BASAL AREA	TREES
17	01	14	52	206.7	2.97	3
17	01	16	18	91.5	1.24	1
17	01	18	20	130.3	1.69	1
				428.5	5.90 *	5 *
17	04	12	136	376.1	4.56	6
17	04	14	251	982.9	7.62	7
17	04	16	110	565.6	4.10	3
17	04	18	40	250.8	1.65	1
17	04	22	88	761.0	5.27	2
17	04	24	18	272.3	3.17	1
17	04	26	48	654.1	3.92	1
17	04	30	48	892.0	4.68	1
				4754.8	34.97 *	22 *
17	05	12	182	495.4	6.74	9
17	05	14	252	947.1	10.29	10
17	05	16	100	462.0	4.02	3
17	05	18	64	452.6	3.54	2
17	05	20	48	405.6	2.10	1
				2762.7	26.69 *	25 *
17	06	14	16	74.9	1.05	1
17	06	16	14	99.3	1.54	1
17	06	22	38	381.2	2.47	1
17	06	28	16	355.5	4.52	1
				910.9	9.58 *	4 *
17	11	12	675	1973.0	24.27	31
17	11	14	774	3094.6	28.79	27
17	11	16	1153	6394.9	44.70	32
17	11	18	644	4522.4	28.11	16
17	11	20	188	1630.1	10.51	5
17	11	22	32	305.0	2.74	1
17	11	24	74	786.6	5.90	2
17	11	28	24	453.0	4.04	1
				19159.6	149.06 *	115 *
17	20	12	26	79.2	1.51	2
17	20	14	34	143.2	1.15	1
17	20	16	68	362.6	2.82	2
				585.0	5.48 *	5 *
17	30	12	30	99.9	.88	1
				99.9	.88 *	1 *
17	41	14	33	114.6	1.01	1
				114.6	1.01 *	1 *
17	45	12	26	78.2	1.44	2
17	45	14	32	136.2	1.12	1
17	45	16	20	125.9	1.40	1
				340.3	3.96 *	4 *
17	69	12	24	76.8	.91	1
17	69	14	122	529.9	4.43	4
17	69	16	24	142.4	1.54	1
17	69	18	90	681.1	5.41	3
17	69	20	50	366.8	2.23	1
17	69	26	36	535.0	3.49	1
17	69	28	50	586.9	4.34	1
				2918.9	22.35 *	12 *

TOTALS IN SAMPLE — 32075.2 259.88 194

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PER ACRE ANSWERS BY AREA BREAK
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

LI T # 3A

NO PLOTS	SITE	COVER	SIZE	DENSITY	TREE NO	SPECIES	DIAMETER	LENGTH	SOUNDNESS	VIGOR	QUALITY	DBH CLASS	PER ACRE VALUES: NET VOL BD. FT. INTER-NAT'NL	BASAL AREA	TREES	EXPANDED ACRES	EXPANDED VOLUME Bd.Ft.
6	1												9976.2	73.47	46.67	391.8	3908695.
7	2												11874.3	95.21	72.86	457.1	5427736.
4	3												4349.6	48.01	45.00	261.2	1136122.
TOTAL # PLOTS — 17													FOREST TOTALS —			1110.1*	10472553.*
11		1											11075.4	88.55	70.45	718.3	7955466.
6		2											6424.4	54.22	32.50	391.8	2517086.
TOTAL # PLOTS — 17													FOREST TOTALS —			1110.1*	10472552.*
3			3										3946.0	44.67	40.00	195.9	773021.
14			4										10609.9	83.24	60.71	914.2	9699531.
TOTAL # PLOTS — 17													FOREST TOTALS —			1110.1*	10472552.*
4				2									7739.6	63.20	42.50	261.2	2021590.
13				3									9955.2	80.51	61.54	848.9	8450963.
TOTAL # PLOTS — 17													FOREST TOTALS —			1110.1*	10472553.*
1	1	3											3729.5	43.35	45.00	65.3	243536.
10	1	4											11810.0	93.07	73.00	653.0	7711930.
2	2	3											4054.3	45.33	37.50	130.6	529485.
4	2	4											7609.5	58.68	30.00	261.2	1987601.
TOTAL # PLOTS — 17													FOREST TOTALS —			1110.1*	10472552.*
2	1		2										9004.3	68.88	55.00	130.6	1175955.
9	1		3										11535.7	92.92	73.89	587.7	6779511.
2	2		2										6475.0	57.53	30.00	130.6	845635.
4	2		3										6399.1	52.58	33.75	261.2	1671451.
TOTAL # PLOTS — 17													FOREST TOTALS —			1110.1*	10472552.*

LIST # 1

PER ACRE ANSWERS QUALITY WITHIN SPECIES

NO PLOTS	CONSISTEREZ DENSITY	TREE NO	SPECIES	DIAMETER	LENGTH	SOUNDNESS	VIGOR	QUALITY	DBH CLASS	PER ACRE VALUES NET VOL. BD. FT. INTER-NAT'NL	BASAL AREA	TREES	EXPANSIONS ACRES	EXPANSIONS VOLUMES
17			1					3		110.2	1.42	1.18	1110.1	122340.
17			1					4		15.8	.32	.29	1110.1	17566.
										126.0 *	1.74 *	1.47 *	*	139906.*
17			4					1		291.9	1.92	1.18	1110.1	324051.
17			4					2		550.1	3.84	2.65	1110.1	610620.
17			4					3		214.1	2.22	2.06	1110.1	237627.
17			4					4		342.4	2.31	.59	1110.1	380144.
										1398.5 *	10.29 *	6.48 *	*	1552442.*
17			5					2		327.2	2.76	2.35	1110.1	363231.
17			5					3		311.4	3.94	4.41	1110.1	345698.
17			5					4		173.9	1.14	.59	1110.1	193092.
										812.5 *	7.84 *	7.35 *	*	902021.*
17			6					1		245.9	2.51	.88	1110.1	272954.
17			6					2		22.0	.31	.29	1110.1	24455.
										267.9 *	2.82 *	1.17 *	*	297409.*
17			11					1		2984.8	18.69	11.47	1110.1	3313420.
17			11					2		1830.4	15.29	11.47	1110.1	2031940.
17			11					3		686.7	8.67	10.59	1110.1	762345.
17			11					4		133.2	1.19	.29	1110.1	147905.
										5635.1 *	43.84 *	33.82 *	*	6255610.*
17			20					1		148.8	1.17	.88	1110.1	165144.
17			20					3		23.3	.44	.59	1110.1	25859.
										172.1 *	1.61 *	1.47 *	*	191003.*
17			30					2		29.4	.26	.29	1110.1	32617.
										29.4 *	.26 *	.29 *	*	32617.*
17			41					3		33.7	.30	.29	1110.1	37417.
										33.7 *	.30 *	.29 *	*	37417.*
17			45					2		40.1	.33	.29	1110.1	44469.
17			45					3		23.0	.42	.59	1110.1	25532.
17			45					4		37.0	.41	.29	1110.1	41106.
										100.1 *	1.16 *	1.17 *	*	111107.*
17			69					1		321.6	2.21	.88	1110.1	356962.
17			69					2		341.7	2.81	2.06	1110.1	379360.
17			69					3		195.2	1.54	.59	1110.1	216698.
										858.5 *	6.56 *	3.53 *	*	953020.*
				FOREST TOTALS —						9433.8/A	76.42/A	57.04/A		10472552. Bd. Ft.

LIST # 4 ?

(REVERSE SORT)

PER ACRE ANSWERS SPECIES WITHIN QUALITY

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

NO PLOTS	SOIL SITE	DENSITY	TREE NO	SPECIES	DIAMETER	LENGTH	SOUNDNESS	VIGOR	QUALITY	DBH CLASS	PER ACRE VALUES NET VOL. BD. FT. INTERNAT'NL	BASAL AREA	TREES	EXPANSIONS ACRES	VOLUMES
17				4					1		291.9	1.92	1.18	1110.1	324051.
17				6					1		245.9	2.51	.88	1110.1	272954.
17				11					1		2984.8	18.69	11.47	1110.1	3313420.
17				20					1		148.8	1.17	.88	1110.1	165144.
17				69					1		321.6	2.21	.88	1110.1	356962.
											3993.0	* 26.50	* 15.29	* *	4432531.*
17				4					2		550.1	3.84	2.65	1110.1	610620.
17				5					2		327.2	2.76	2.35	1110.1	363231.
17				6					2		22.0	.31	.29	1110.1	24455.
17				11					2		1830.4	15.29	11.47	1110.1	2031940.
17				30					2		29.4	.26	.29	1110.1	32617.
17				45					2		40.1	.33	.29	1110.1	44469.
17				69					2		341.7	2.81	2.06	1110.1	379360.
											3140.9	* 25.60	* 19.40	* *	3486692.*
17				1					3		110.2	1.42	1.18	1110.1	122340.
17				4					3		214.1	2.22	2.06	1110.1	237627.
17				5					3		311.4	3.94	4.41	1110.1	345698.
17				11					3		686.7	8.67	10.59	1110.1	762345.
17				20					3		23.3	.44	.59	1110.1	25859.
17				41					3		33.7	.30	.29	1110.1	37417.
17				45					3		23.0	.42	.59	1110.1	25532.
17				69					3		195.2	1.54	.59	1110.1	216698.
											1597.6	* 18.95	* 20.30	* *	1773516.*
17				1					4		15.8	.32	.29	1110.1	17566.
17				4					4		342.4	2.31	.59	1110.1	380144.
17				5					4		173.9	1.14	.59	1110.1	193092.
17				11					4		133.2	1.19	.29	1110.1	147905.
17				45					4		37.0	.41	.29	1110.1	41106.
											702.3	* 5.37	* 2.05	* *	779813.*
				FOREST TOTALS —							9433.8/A	76.42/A	57.04/A		10472552. Bd. Ft.

LIST #59

PER ACRE ANSWERS VIGOR WITHIN SPECIES
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

PER ACRE VALUES
XXXXXXXXXXXXXXXXXXXXXXXXXX

NO PLOTS	COSIVITEZ EREY	DENSITY	TREE NO	SPECIES	DIAMETER	LENGTH	SUUNUNESS	VIGOR	QUALITY	DBH CLASS	NET VOL. BD. FT. INTER-NAT'L	BASAL AREA	TREES	EXPANSIONS ACRES	VOLUMES
17				1				1			55.3	.64	.59	1110.1	61349.
17				1				2			38.3	.50	.29	1110.1	42543.
17				1				3			16.6	.29	.29	1110.1	18447.
17				1				4			15.8	.32	.29	1110.1	17566.
											126.0 *	1.75 *	1.46 *	*	139905.*
17				4				1			495.3	3.51	2.65	1110.1	549859.
17				4				2			389.5	2.77	1.77	1110.1	432417.
17				4				3			171.2	1.69	1.47	1110.1	190023.
17				4				4			342.4	2.31	.59	1110.1	380144.
											1398.4 *	10.28 *	6.48 *	*	1552445.*
17				5				1			197.1	1.47	1.18	1110.1	218755.
17				5				2			266.4	2.57	2.65	1110.1	295678.
17				5				3			175.2	2.67	2.94	1110.1	194496.
17				5				4			173.9	1.14	.59	1110.1	193092.
											812.6 *	7.85 *	7.36 *	*	902021.*
17				6				1			112.1	.73	.29	1110.1	124462.
17				6				2			51.2	.76	.59	1110.1	56876.
17				6				3			104.6	1.33	.29	1110.1	116071.
											267.9 *	2.82 *	1.17 *	*	297409.*
17				11				1			1743.1	12.72	10.00	1110.1	1935068.
17				11				2			2618.3	19.14	14.12	1110.1	2906535.
17				11				3			1140.5	10.79	9.41	1110.1	1266101.
17				11				4			133.2	1.19	.29	1110.1	147905.
											5635.1 *	43.84 *	33.82 *	*	6255609.*
17				20				2			164.6	1.40	1.18	1110.1	182677.
17				20				3			7.5	.21	.29	1110.1	8326.
											172.1 *	1.61 *	1.47 *	*	191003.*
17				30				3			29.4	.26	.29	1110.1	32617.
											29.4 *	.26 *	.29 *	*	32617.*
17				41				3			33.7	.30	.29	1110.1	37417.
											33.7 *	.30 *	.29 *	*	37417.*
17				45				2			53.0	.53	.59	1110.1	58835.
17				45				3			10.1	.22	.29	1110.1	11166.
17				45				4			37.0	.41	.29	1110.1	41106.
											100.1 *	1.16 *	1.17 *	*	111107.*
17				69				1			167.8	1.42	.88	1110.1	186236.
17				69				2			453.6	3.15	1.77	1110.1	503594.
17				69				3			237.1	2.00	.88	1110.1	263191.
											858.5 *	6.57 *	3.53 *	*	953021.*
											FOREST TOTALS — 9433.8/A	76.44/A	57.04/A		10472552. Bd Ft.

LIST #1

(REVERSE SORT)

PER ACRE ANSWERS SPECIES WITHIN VIGOR

PER ACRE VALUES

NO PLOTS	COSIVEREY	DENSITY	TREE NO	SPECIES	DIAMETER	LENGTH	SOUNDNESS	VIGOR	QUALITY	DBH CLASS	NET VOL. BD. FT. INTER-NAT'L	BASAL AREA	TREES	EXPANSIONS ACRES	EXPANSIONS VOLUMES
17				1				1			55.3	.64	.59	1110.1	61349.
17				4				1			495.3	3.51	2.65	1110.1	549859.
17				5				1			197.1	1.47	1.18	1110.1	218755.
17				6				1			112.1	.73	.29	1110.1	124462.
17				11				1			1743.1	12.72	10.00	1110.1	1935068.
17				69				1			167.8	1.42	.88	1110.1	186236.
											2770.7	* 20.49	* 15.59	* *	3075729.*
17				1				2			38.3	.50	.29	1110.1	42543.
17				4				2			389.5	2.77	1.77	1110.1	432417.
17				5				2			266.4	2.57	2.65	1110.1	295678.
17				6				2			51.2	.76	.59	1110.1	56876.
17				11				2			2618.3	19.14	14.12	1110.1	2906535.
17				20				2			164.6	1.40	1.18	1110.1	182677.
17				45				2			53.0	.53	.59	1110.1	58835.
17				69				2			453.6	3.15	1.77	1110.1	503594.
											4034.9	* 30.82	* 22.96	* *	4479155.*
17				1				3			16.6	.29	.29	1110.1	18447.
17				4				3			171.2	1.69	1.47	1110.1	190023.
17				5				3			175.2	2.67	2.94	1110.1	194496.
17				6				3			104.6	1.33	.29	1110.1	116071.
17				11				3			1140.5	10.79	9.41	1110.1	1266101.
17				20				3			7.5	.21	.29	1110.1	8326.
17				30				3			29.4	.26	.29	1110.1	32617.
17				41				3			33.7	.30	.29	1110.1	37417.
17				45				3			10.1	.22	.29	1110.1	11166.
17				69				3			237.1	2.00	.88	1110.1	263191.
											1925.9	* 19.76	* 16.44	* *	2137855.*
17				1				4			15.8	.32	.29	1110.1	17566.
17				4				4			342.4	2.31	.59	1110.1	380144.
17				5				4			173.9	1.14	.59	1110.1	193092.
17				11				4			133.2	1.19	.29	1110.1	147905.
17				45				4			37.0	.41	.29	1110.1	41106.
											702.3	* 5.37	* 2.05	* *	779813.*
				FOREST TOTALS —							9433.8/A	76.44/A	57.04/A		10472552. Bd. Ft.

PER TREE AND PER ACRE ANSWERS — STOCK AND STAND TABLES

DBH CLASS WITHIN SPECIES

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

NO PLOTS	SPECIES	DBH CLASS	PER TREE VALUES: AVG LEN PER TREE	PER TREE VALUES: AVG VOLUME PER TREE	PER ACRE VALUES: NET VOLUME BD. FT. INTER-NAT'NL	PER ACRE VALUES: BASAL AREA	PER ACRE VALUES: TREES	EXPANDED VALUES: AREA	EXPANDED VALUES: VOLUMES
17	01	14	17.3	68.9	60.8	.87	.88	1110.1	67488.
17	01	16	18.0	91.5	26.9	.36	.29	1110.1	29875.
17	01	18	20.0	130.3	38.3	.50	.29	1110.1	42543.
					126.0	* 1.73	* 1.46	* *	139906.*
17	04	12	22.6	62.7	110.6	1.34	1.76	1110.1	122797.
17	04	14	35.9	140.4	289.1	2.24	2.06	1110.1	320917.
17	04	16	36.7	188.5	166.4	1.21	.88	1110.1	184668.
17	04	18	40.0	250.8	73.8	.49	.29	1110.1	81886.
17	04	22	44.0	380.5	223.8	1.55	.59	1110.1	248467.
17	04	24	18.0	272.3	80.1	.93	.29	1110.1	88906.
17	04	26	48.0	654.1	192.4	1.15	.29	1110.1	213564.
17	04	30	48.0	892.0	262.4	1.38	.29	1110.1	291238.
					1398.6	* 10.29	* 6.45	* *	1552443.*
17	05	12	20.2	55.0	145.7	1.98	2.65	1110.1	161748.
17	05	14	25.2	94.7	278.6	3.03	2.95	1110.1	309228.
17	05	16	33.3	154.0	135.9	1.18	.88	1110.1	150843.
17	05	18	32.0	226.3	133.1	1.04	.59	1110.1	147774.
17	05	20	48.0	405.6	119.3	.62	.29	1110.1	132428.
					812.6	* 7.85	* 7.36	* *	902021.*
17	06	14	16.0	74.9	22.0	.31	.29	1110.1	24455.
17	06	16	14.0	99.3	29.2	.45	.29	1110.1	32421.
17	06	22	38.0	381.2	112.1	.73	.29	1110.1	124462.
17	06	28	16.0	355.5	104.6	1.33	.29	1110.1	116071.
					267.9	* 2.82	* 1.16	* *	297409.*
17	11	12	21.8	63.6	580.3	7.14	9.13	1110.1	644184.
17	11	14	28.7	114.6	910.2	8.47	7.95	1110.1	1010386.
17	11	16	36.0	199.8	1880.8	13.15	9.42	1110.1	2087935.
17	11	18	40.3	282.7	1330.0	8.27	4.72	1110.1	1476564.
17	11	20	37.6	326.0	479.4	3.06	1.48	1110.1	532228.
17	11	22	32.0	305.0	89.7	.81	.29	1110.1	99583.
17	11	24	37.0	393.3	231.4	1.74	.59	1110.1	256825.
17	11	28	24.0	453.0	133.2	1.19	.29	1110.1	147905.
					5635.0	* 43.83	* 33.87	* *	6255610.*
17	20	12	13.0	39.6	23.4	.44	.59	1110.1	25859.
17	20	14	34.0	143.2	42.1	.34	.29	1110.1	46755.
17	20	16	34.0	181.3	106.6	.83	.59	1110.1	118389.
					172.1	* 1.61	* 1.47	* *	191003.*
17	30	12	30.0	99.9	29.4	.26	.29	1110.1	32617.
					29.4	* .26	* .29	* *	32617.*
17	41	14	33.0	114.6	33.7	.30	.29	1110.1	37417.
					33.7	* .30	* .29	* *	37417.*
17	45	12	13.0	39.1	23.0	.42	.59	1110.1	25532.
17	45	14	32.0	136.2	40.1	.33	.29	1110.1	44469.
17	45	16	20.0	125.9	37.0	.41	.29	1110.1	41106.
					100.1	* 1.16	* 1.17	* *	111107.*
17	69	12	24.0	76.8	22.6	.27	.29	1110.1	25075.
17	69	14	30.5	132.5	155.9	1.30	1.18	1110.1	173012.
17	69	16	24.0	142.4	41.9	.45	.29	1110.1	46494.
17	69	18	30.0	227.0	200.3	1.59	.88	1110.1	222379.
17	69	20	50.0	366.8	107.9	.66	.29	1110.1	119760.
17	69	26	36.0	535.0	157.4	1.03	.29	1110.1	174678.
17	69	28	50.0	586.9	172.6	1.28	.29	1110.1	191623.
					858.6	* 6.58	* 3.51	* *	953021.*

FOREST TOTALS — 9434.0/A   76.43/A 57.03/A   10472554. Bd. Ft.